

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Presently Amended) A computer-implemented method of illustrating networking addresses, comprising:

accessing definitional information of a set of the networking addresses, the definitional information defining one or more attributes for the networking addresses of the set; and

rendering a display of the set of networking addresses wherein the display provides a first visual indicator for networking addresses having a first value of a first attribute and a second visual indicator for networking addresses having a second value of the first attribute, the display comprising [a] an N by N grid space having  $N^2$  two or more individually selectable rectangles, each rectangle corresponding to between one and  $1/N^2$  ~~a distinct portion of the~~ network addresses of the set, and wherein each rectangle is displayed with either the first visual indicator or the second visual indicator.

2. (Previously Presented) The computer-implemented method of claim 1, further comprising:

determining a start address and mask size of the set of the networking addresses to be displayed; and

when rendering the display, using the start address and mask size to set the boundary of the display.

3. (Previously Presented) The computer-implemented method of claim 1, wherein determining a start address and mask size of the set comprises receiving a user selection to zoom out of a current displayed set of the networking addresses to display a set containing a larger number of addresses.

4. (Previously Presented) The computer-implemented method of claim 1, wherein determining a start address and mask size of the set comprises receiving a user selection to zoom in on a current displayed set of the networking addresses.

5. (Previously Cancelled)

6. (Previously Cancelled)

7. (Previously Cancelled)

8. (Previously Cancelled)

9. (Previously Presented) The computer-implemented method of claim 4, wherein the area of each of the rectangles is representative of the number of networking addresses within the rectangles.

10. (Original) The computer-implemented method of claim 1, wherein the first visual indicator is a first color and wherein the second visual indicator is a second color.

11. (Original) The computer-implemented method of claim 1, wherein the first attribute is status.

12. (Original) The computer-implemented method of claim 11, wherein the first visual indicator indicates an allocated status and the second visual indicator indicates a free status.

13. (Original) The computer-implemented method of claim 12, wherein rendering a display further comprises providing a third visual indicator for the first value and wherein the third visual indicator indicates a reclaimed status.

14. (Previously Cancelled)

15. (Previously Cancelled)

16. (Original) The computer-implemented method of claim 1, wherein the first attribute corresponds to the parent network and subordinate networks for which the networking addresses are assigned, and wherein the first value indicates the parent network and the second value indicates a first subordinate network.

17. (Previously Presented) The computer-implemented method of claim 1, wherein the rectangles are individually selectable to zoom the display.

18. (Previously Presented) The computer-implemented method of claim 17, wherein rendering the display further comprises displaying a networking address value when a cursor is placed over an individual rectangle.

19. (Previously Presented) The computer-implemented method of claim 17, wherein rectangles represent individual networking addresses.

20. (Original) The computer-implemented method of claim 1, wherein the networking address space is layer three of the communications protocol stack.

21. (Original) The computer-implemented method of claim 1, wherein networking address space is layer four of the communications protocol stack.

22. (Presently Amended) A computer system for illustrating networking addresses, comprising:

storage containing definitional information of a set of the networking addresses, the definitional information defining one or more attributes for the networking addresses of the set;

a display device; and

a processing device configured to initiate a display of the set of networking addresses on the display device, wherein the display comprises [a] an N by N grid having N<sup>2</sup> ~~two or more~~ individually selectable rectangles, each rectangle corresponding to a

~~distinct portion~~ between one and  $1/N^2$  of the network addresses of the set, and wherein each rectangle is displayed with either a first visual indicator for networking addresses having a first value of a first attribute or a second visual indicator for networking addresses having a second value of the first attribute.

23. (Previously Presented) The computer system of claim 22, wherein the processing device is further configured to determine a start address and mask size of the set of the networking addresses to be displayed, and when rendering the display, using the start address and mask size to set the boundary of the display.

24. (Previously Cancelled)

25. (Previously Presented) The computer system of claim 23, wherein the area of each of the rectangles is representative of the number of networking addresses within the rectangles.

26. (Original) The computer system of claim 22, wherein the first visual indicator is a first pattern and wherein the second visual indicator is a second pattern.

27. (Original) The computer system of claim 22, wherein the first attribute is status.

28. (Original) The computer system of claim 27, wherein the first visual indicator indicates an allocated status and the second visual indicator indicates a free status.

29. (Original) The computer system of claim 28, wherein the processing device is further configured to provide a third visual indicator for the first value and wherein the third visual indicator indicates a reclaimed status.

30. (Previously Cancelled)

31. (Previously Cancelled)

32. (Original) The computer system of claim 22, wherein the first attribute corresponds to subordinate networks for which the networking addresses are assigned, and wherein the first value indicates a first subordinate network and the second value indicates a second subordinate network.

33. (Original) The computer system of claim 22, wherein the networking address space is layer three of the communications protocol stack.

34. (Presently Amended) A computer readable medium containing instructions that when performed by a computer perform the steps of:

determining values of an attribute for a plurality of networking addresses;

rendering a display of the plurality of networking addresses wherein the display comprises [a] an N by N grid having two or more  $N^2$  individually selectable rectangles, each rectangle corresponding to a distinct portion between one and  $1/N^2$  of the network addresses of the set, and wherein each rectangle includes a first indicator for networking addresses having a first value for the attribute or a second indicator for networking addresses having a second value for the attribute.

35. (Original) The computer-readable medium of claim 34, wherein determining values of an attribute for a plurality of networking addresses comprises referencing a definitional list for the plurality of networking addresses that lists the values of the attribute for the plurality of networking addresses.

36. (Previously Cancelled)

37. (Original) A computer-implemented method of illustrating networking address structure, comprising:

accessing definitional information of a set of the networking addresses, the definitional information defining at least one parent network and at least one subordinate network of the parent network for the networking addresses of the set; and

rendering a display of the at least one parent network and at least one subordinate network of the parent network, wherein the display is a tree illustrating a hierarchical structure of the parent and subordinate networks.

38. (Original) The computer-implemented method of claim 37, wherein the tree lists a name assigned to each of the parent and subordinate networks of the hierarchical structure according to the definitional information.

39. (Previously Presented) The computer-implemented method of claim 38, wherein the tree provides an indicator of the type of networking addresses used for the parent and subordinate networks according to the definitional information.

40. (Previously Presented) The computer-implemented method of claim 39, wherein the tree provides an indicator of whether the subordinate networks are aggregated with the parent network according to the definitional information.

41. (Previously Presented) The computer-implemented method of claim 40, wherein the tree further provides selections for expanding and collapsing the display of the subordinate networks of a parent network.

42. (Presently Amended) A computer-implemented method of illustrating networking addresses, comprising:

constructing a multi-dimensional grid having ~~multiple~~  $N^2$  individually selectable positions, each position representing a portion of a linear index of networking addresses, in which each position in the arrangement corresponds to between one and  $1/N^2$  ~~a specific value or group of~~ values of the index, and wherein the data set includes definitional



information of the networking addresses defining one or more attributes associated with each network address; and

displaying the arrangement such that at each position in the arrangement, a first visual indicator is provided for the network addresses having a first value for the first attribute and a second visual indicator is provided for the network addresses having a second value for the first attribute.

43. (Previously Presented) The computer-implemented method of claim 42, wherein the networking addresses are Internet Protocol addresses.